

AVIATION

The Oldest American Aeronautical Magazine

FEBRUARY 15, 1926

Issued Weekly

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Where the Sun Shines — Above the Clouds.

P. and A. Photos

VOLUME
XX

SPECIAL FEATURES

NUMBER
7

BOY SCOUTS STUDY AVIATION
GERMAN AIR TRANSPORT COMBINE
LINES OF POSSIBLE AERONAUTICAL DEVELOPMENT

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FEBRUARY 15, 1926

AVIATION

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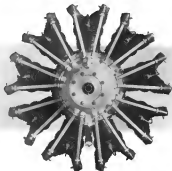
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AVIATION

VOL. XX

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No. 7

The Boy Scouts and Aviation

IT IS MORE than passing interest to note the extended efforts which are now being made by the officials of the Boy Scouts of America to instill into the minds of the younger generation of the country an attitude of general aeronautics. The initiation of an Aviation badge is not new but, in the past, the requirements of a boy, in order that he may qualify for this badge, were largely theoretical and the incorporation of a more practical training into the curriculum for this badge is commendable.

In the past, this has not been possible owing to the limited scope for practical activity in this field but this condition no longer exists with the extended and more common use of the airplane. And this improved condition has not been overlooked by the scout officials.

The extended interest which is being encouraged is likely to have a pronounced effect upon the future of aviation throughout the country. When it is realized that the Boy Scout movement has spread to every corner of the land, and that the expression includes a very large proportion of the younger generation of boys, it will be seen what a varied effect the extended interest, which is being fostered, will have upon the development of future aviation. Such a condition cannot but have a very significant effect upon the future of aviation in this country.

Errors of Judgement

IT IS CLAIMED, by competent authorities, that at least eighty per cent of airplane accidents are caused by errors of judgement on the part of the pilot. If errors of judgement are included in errors of judgement, these figures are undoubtedly true at approximately true. It follows that, the very first type of plane, a more experienced pilot and one with better training, is essential for greater safety. It does not, however, follow that better piloting is the only remedy for errors in judgment. Different types of planes require varying degrees of proficiency in piloting. There are many good Jersey pilots who would crash a Curtiss racer, for instance. But piloting undoubtedly exists and always will exist, but, in most cases where a crash occurs which might have been avoided through skilled piloting, it might also have been avoided had the plane been easier to handle. If a plane could be devised with aerial banks which would enable it to bank at altitude rapidly without giving speed and still remain flying in a straight line, it would greatly assist piloting. Many other planes have been suggested and could be worked out which would make the pilot's task easier and lessen his possible errors of judgement.

There has been a tendency on the part of designers of airplanes to center their efforts solely around obtaining im-

proved performance in their products and, as a consequence, ease in piloting is frequently overlooked. Through the high performance may have the seeming advantage of providing the best advertising value for the plane, this will not assist us in the future. The time is rapidly approaching when a commercial plane will be judged only by its simplicity from the point of view of the pilot and piloting. It, therefore, follows that every effort should be made, not only to provide efficient airplanes, but also airplanes which require less expert skill in operation. This work, which always present, is enhanced by the extent to which airplanes are being used today for private and commercial purposes. There is every reason that thought is strongly turned in this direction and modern designs show great improvement in respect to ease of piloting over old designs. This condition must continue.

Foreign Purchases

THE DEVELOPMENT of aircraft depends upon more than the mere spending of money. Varied physical conditions develop different schools of thought and result in the production of planes of fundamentally different characteristics. America, with its enormous forests, land, in a general way, and recent years, pushed the development of wooden planes, while Europe, with little timber suited for aircraft work, has attempted to substitute metal. England has developed steel structures, while France and Germany, with their great supplies of aluminum have turned toward aluminum alloys.

Basically, different schools of military tactics develop different types of planes. The United States, for example, has specialized in the development of pursuit planes, while France has developed the heavy bomber. No country has money enough to stress to its utmost the development of every type and method of construction. Even if one country had attempted this, other countries, with different fundamental resources, would be unable to maintain identical ideas. In view of this, it would seem logical, not only to study carefully foreign developments, but to actually purchase and operate advanced types of foreign planes, particularly those which incorporate new structural methods. A small number of foreign purchases have been made in past years but have not with considerable opportunity both from the American manufacturers and from appropriation committees in Congress. Later, the recent purchase of Curtiss engines by the British Air Ministry caused British manufacturers.

Foreign purchases can be of material benefit and there is the possibility that some foreign government may appreciate a free investment in a foreign design as well as its own government. There is little danger of our making such substantial purchases abroad as to engage our own industry and there are valuable European specialists which we have not had time or money to develop.

What Pilots Think About Air Legislation

Pilots Take Advantage of Opportunity to Express Views.

Against Federal Legislation

I would like to state my disapproval of legislation on aerial navigation. I have owned a plane and this past fall have done a lot of flying with J. J. Vancay of Winchester, Mass. We went to and from different farm doing passenger carrying and also sight flying with only a brush fire to land by. I also did passenger jumping for Mabel Colby's Flying Circus. In all my experience I have not seen a field assistant outside of government service.

We do not want aerial legislation. The Copey type, no fee, has gone from town to town, with no government aid, obtaining aviation and opposed to aviation. The percentage of field assistants in aviation compared to any other line of transportation is far less. That aviation is a necessary transportation means has not occurred to the average man. I have had considerable use the public who find a place to stay, that the pilot rules it himself.

I do not know that I could pass an examination for the government service. I am not supposed to be able to do so, the rank of a Captain in war. Federal control would employ a staff of specialized aviation inspectors drawing specialized salaries. The staff would have to be large to cover the United States and to governmental work would cost too much for the burden to be borne by the present time aviation. State control would only complicate matters more. A place can exist under state law in a day.

As for client flying, I believe it is confined to be within the state. It does not necessitate any special aviation law for a state to regulate aviation. Commercial aviation might be taxed.

H. H. BUCKENBERGER, JR.,
Forest Dept., Va.

Favors Stringent Bill

I do not believe in the strict law at this time as aviation is too young in this country. I read Senator Hiram Bingham's bill and it seemed fairly reasonable.

I believe every pilot should be licensed and have plenty of flying time before he carries any passengers or does any other commercial work.

We have been flying Copeys 2500's for the last five years, but this year we are buying all new planes and doubling the size.

I believe aviation is still too young to be on a good sound paying back. The day is coming when it is going to be a big business and then we will get into it now and stay as long as it is the money maker.

JACK LOVINS,
Birmingham, Ala.

Believes Federal Regulation Essential

We need Federal regulation because an airplane system so much upon it so short a time. To have state legislation would hamper the development of aviation. The State of Tennessee has a license law that is prohibitive for the present commercial flying. Pilots should be licensed, pilots licensed flying fields formed on the same basis as Federal air road projects. Public should be behind the same on the rivers as for the steamboat, that is by the Government.

My present equipment is an Epps, a Standard and a J20, my main work is selling or rather showing real estate from the air and doing advertising work.

BROOK TURNER,
Birmingham, Ala.

Should Allow Legislation Themselves?

I am very much interested in the stand the others are taking in regard to the regulation of flying.

I take the stand of the Vancay of Florida in regard to being regulated or being told whether or not I am able to fly. Because a man holds a pilot's license does not signify that it is immune from a crash nor that it is a better flyer than some "handicapped" without a license.

I am very sorry to say that we had a fatal crash in Ferno on the 21st of January in which the passenger was killed. I was an eye witness of the accident from the air and consequently could see what it happened. It was entirely through lack of knowledge that it took place. The pilot made the error of banking too steeply with the wind and went into a power slip of an altitude of what I should judge to have been about a hundred feet. No license could have prevented that accident nor could all the inspections in the world. It is up to the pilot himself to protect himself and his passengers.

What do you and the rest of the flying world say that we take the matter of legislation in our own hands? The flying public does not know what we need. Let us all get together and organize an association for the promotion of flying in aviation. Let us tell the public that we are interested in their safety and our safety while in the air. This will not be a hard thing to do. We can organize, have our own day to pay and use the money to advance our policy of safe flying. We can give laws that require that on each and every flight we have one of our own men to inspect planes and put him OK upon a plane. If he was once defect in the plane he can warn the pilot but the pilot does not need to stop flying if he is not licensed to act upon the defect in the plane. But on the field have a way of showing the public which ship has been passed on. It is certainly a passenger's right to see a ship that has been OK'd by the inspector and the pilot will soon see the error of his ways and soon be a follower of the "Safety Pilot Movement."

Then each pilot should be made to live up to the laws on standing or revoking flying license. If a man has a certain minimum altitude that the association should set.

By carefully studying a movement of this kind, advertising the fact that we are for "safety" and by having the support of the association public upon our plans, we could do every with government control.

I believe that if the above outlined it, it would be found that this was good. It would be the largest benefit possible to bring about America's supremacy in the air and would make commercial flying a paying business. The public would be for more willing to pay with it if they knew that the pilot was not a scoundrel.

If a pilot is not willing to fly a pilot for a certain length of time. When he is found that passengers would refuse to ride with him until he was rechecked he would soon reform. It would not take the flying public long to learn that we were trying to protect them and they would be less inclined to ride.

It would be an honor to use the insignia of the "Safety Pilot" and to show your membership card in good standing when he is better than a pilot's license.

An organization of this type would not prohibit anyone flying in any state if he was not able to fly in a plane and being told it was unsafe or ready for a crash up or down it would be better the way every pilot should be given a license. If a man is going to kill himself by his own carelessness, legislation can never stop him. There are too many other things besides flying. Wouldn't you or anyone else think twice before going up or playing cards or doing you some war or flying with a pilot who insists upon taking unnecessary chances? Let us play safe with the public and with ourselves. Then the public will play safe with us by patronizing us. We

do not need a government inspection to tell us of some part of one plane that is weak or unsafe. Let us own a larger part of any defects in one and then put it up to the rest of the pilots on the field or record field and let them pass upon the judgment before condemning any plane.

I am not writing this from the standpoint of one of my Copeys "Hedocor." I own and fly an OX50 Jenny aircraft. I am for aviation in every way but we still have a hard road ahead before commercial flying is a success. We depend on the public, so let us show the public that we are a class that does not need government legislation to protect them.

A. P. FENN, JR.,
Hudson, Calif.

Believes in Unrestricted Flying

I think aviation should be unhampered and uncontrolled by a lot of unnecessary laws while yet in its infancy.

Most many accidents could be paid for by state or county laws flying laws before being permitted to sail.

The student who could afford to pay for that much thing time before flying alone, wouldn't be of any benefit to commercial aviation because he would probably be able to live without flying for his living, or could only fly for pleasure.

What aviation needs is men who want to learn their services to live, and pilots who are not too fond to back new status or new weather.

Good flyers, pilots and good financial business men, if authorized by a lot of unnecessary laws, will get aviation on the map and make it pay for its own way. But, if it does with out laws it will not last so long as a water fly in the bottom stream.

Instead of encouraging laws, every law should be encouraged to have a good commercial flying field and then with out laws. Airplane without landing fields are so a searier people with a woman and no pilot in flight.

ER. COULLEN,
Bakers, N. Y.

Wishes Greater Federal Control

I am very much in favor of Senator Hiram Bingham's bill regarding aviation control. I also favor state laws for aviation control.

I think all airplanes should be officially inspected and publicly endorsed, or marked OK. All pilots should be required to have a certain number of hours and a pilot's license before carrying passengers.

I have been flying for five years and had about 400 hours in the air. I fly one and own a new OX500 Standard. I have bought several pilots to fly and I am carrying new pilots and passenger carrying very profitable. I also make quite a few cross-country trips.

I believe that a lot of the bad surprises might be inspected and restricted as usual.

LIVINGSTON KENNEDY,
North Platte, Neb.

Federal Law the Only Solution

Florida's new aviation law is passed enough for me to be a strong advocate for the Federal control of aircraft. What are we going to do when every state has its similar law? When the law becomes arbitrary, it will automatically prevent us whether I am flying for profit or pleasure.

Aviation is just getting a footing in Florida, but if this law ever becomes a law, it will be a solid law. There is no state in the United States effective the prohibition for air travel that this state offers, owing to the long road, short routes to get anywhere. There is flying every day in the very big numbers of flying boats and landing fields are ready made in this small country. Everyone is a strong leader in

flying and cross-country flying is comparatively safe over the wide expanse of level country.

Privately owned aircraft are increasing in numbers every day but when each owner has to pay \$275.00 per year, I am afraid strident property will prevent their enthusiasm.

R. L. BOON,
Barnes, Fla.

A Suggested Aircraft Regulatory Bill

Nothing in this bill is to have any bearing on Government owned planes.

This is to be a State bill, and may be superseded by the Government to help aviation in general.

1. That pilots to be certain aircraft over town be held down by the state.

2. That there be a penalty for the violation of any part of the articles of this bill.

3. That there be an inspector for certain districts of the state to take charge of enforcement of this bill.

4. That each licensed pilot be given a commission in the state militia as a pilot.

5. That the state militia of each state have an air service branch under its own officers.

6. That every aircraft in connection with this bill be a licensed plane.

7. That a pilot plane a flying test as to their skill with whatever type of craft they are to fly tests to be conducted not for the purpose of a pilot showing that he is competent, but for the purpose of safe and sane flying, landing, take-off, and other things, open landing to be a mark, and ability to stand a glide, etc.

8. That all pilots be required to keep a log as to their flying time, and report to be made to the State each month, on said log.

9. That licenses be issued by the State to the pilot, license not to be renewed if pilot does not fly for six months, which monthly report of log will show.

10. That the state make no tests and issue of license.

11. That all applicants for pilots license prove at least fifty hours before he can take test.

12. That temporary license to give students after said tests, to continue the test, who has his own ship to get time before applying for license.

13. That the pilot make a report of every accident and crash of plane.

14. That all pilots pass a medical examination.

15. That all aircraft pass a state inspection as to its airworthiness for whatever type of service it is to be used.

16. Upon passing said inspection it will be given a certificate which will be placed on the engine in large letters in black with the name of the state where inspection was made. That said inspection will be made every six months.

17. That if said state is to be put in a different form of service, such as from freight to passenger, inspection must be made before the change is made.

18. That type of service the craft is used for be painted on the south with numbers issued by the state.

19. That a certificate be issued to the owner of said craft as to its worthiness after inspection is made.

20. That there be a fee charged for the inspection and issue of certificate.

21. That all owners report any mishap and details thereof.

22. That all manufacturers, repair shops and field operators be required to be bonded and insured, for the protection of pilots owners and airplanes to secure them that said operators are capable as to their skill and ability to supply first class tools and materials.

23. That the certificate of inspection be issued to each owner when they stipulate to it.

24. That a fee be charged for the inspection and examination and time thereon.

25. That the certificate be referred to as the maintenance of the present referred to as the maintenance of this bill.

XIV

Caldwell's Flying Guyed

America Seen from the Air. They're off — from Boston

BY CY CALDWELL

THERE has always been a kind of a good grass growing in this country, so the pilot at one point, as the crew was to be, and after a, we will have just where to go and what he saw upon it, was when he got there, if it is true that it is more interesting than the place he left, and that he was going to have more fun in the next place than he had in the last one, this good grass, usually is full that it is full, and when I was a boy, it would have seemed me a world of trouble, and chasing around the country, which is neither way of describing the same thing. But this good grass had not been there for a long time, and I was not sure that it was not under the delusion that for kids were green, that I should see the world and that it was worth seeing. All of this was the other means of finding, the same means as is spread over the whole of all things, something more or less, and it is the same.

See the World at Home

No, my dear boy (I'm writing this for the shy young
 Od readers who refused to turn to the advertising columns at
 all) for all the fun you are going to get out of seeing the
 world, especially by the harsh medium of an airplane, you
 might better stay home and read this paper, and let me tell
 you what the world, or bits of it, is like. You will be far
 happier that way. You may sit in your comfortable chair
 by the fire, or, more likely by the steam radiator, and read,
 at your ease, until you grow tired—and it's morning but tired
 people get reading any stuff—and then you may lay it down,
 and go to bed, or to work if you feel that way, and go to
 comfortable and cheap beds, and have money, or comedy,
 back you in

I started this world flight in Boston, the hub of the universe and the hot-house of civility, thanks to the Boston Tea Party, baked beans, and Porter Adams. It is a most attractive city. Class-consciousness rules in all matters. Kiosks at subway stations are divided into upper and lower shelves. There is a Park Street Under, Washington Street Under, South Street Under, in each case with a Park, Washington, and South Street Upper. I found the Under, myself, for while I have been thrown out of lots of places, still, 74 have got thrown out of some station, even if it was in a class above me.

The Purity of Harvard

The pedestrians, too, are slightly superior to those in most places. Not merely of ethnic—palestines are for some the world over—but of temperament. It is a sign of this that they come to devote their parts of the sidewalk to their own proximity to Harvard—promenade *à la mode*. They stand out in the middle of the street to drink coffee, and to leave the sidewalk free for footlings. So the motorists will use the pulpit, an electric light is thrown off upon them, and pleasure on their white helms. The light line is overhead. Not only does it enable the motorist to slow down to 30 when he may

ways, but it lost the added value of keeping the soap within the store. While poster traffic was still high, it was everywhere. In Boston, except for around City Hall.

Saying that, I thought Boston was one of the great important cities of America, I thought how many beautiful mansions are located there. The Chamber of Commerce gave me the figures, but I lost them in New York. They seemed so beautiful compared to those given me by the New York Chamber, so small that I corrected them where I was packing up to come here. This is written in Philadelphia and I can hardly ever awake long enough to finish this chapter. Where was I? Oh, yes, bookkeepers.

Lost in Boston

[illegible]

But this is quite an old story, the streamers taking to the air is given credit to the Indians. They get lost so often in the dense streets that they are finally to go up and look in the tower from the air they can make anything of it. They can't, of course, but they don't know what they go on. All they can ever pick out is the Charles River, Beacon and the State House dome. But so long as a true Bostonian can see the State House, he feels that his life has not been lived in vain. And if he can catch sight of the First Plank on the Common, life has neither better to offer. You could tell him right then, and he would pass away with a smile upon his face.

Air or Water?

[illegible]

February 15, 1936

looking on top of each other as they say to Florida, we manufacturers can't turn you with the venture, at what not.

Well, I was going to tell you about the rest of the trip to Hartford, New York, and Philadelphia, but I see I shall have to postpone the rest of it to a later issue. A friend, a true, kind, wonderful friend, has just arrived at my room with a horse—one can't be sure of these things, these days—but I think it is Scotch. I feel quite poetic. It strikes me that was, I have a sensitive, artistic nature. Let us pour.

An otherwise dashing young blade,
Who of women was somewhat afraid,
Said, "For me, a dead endage—
"Not phoneyed and countrified—
"I should like to grow old at my trade."

New American Record

The following new American records for airplanes and engines have been recognized by the Contest Committee of the National Aeronautic Association:

CLASS C (Continued)
With Vortex Head of 200 Kilograms (4400 lb.)
Revolving 1000 R.P.M.

OFFER UP TO 100 Kilograms:
Lynch County, N. Carolina 1000 R.P.M., Landing
American CMA-2 (Landing) 400 hp.
at Hampton Roads Va. Jan. 25, 1953. 110 400 hp. h.
112 400 hp. h.

Former Record (Class):
Lynch County, N. Carolina 1000 R.P.M., Landing
Revol. 1000 hp. at Ft. Ben. Va. 1950. 110 400 hp. h.
210 325 hp. h.
104 1100 hp. h.

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210 325 hp. h.
104 1100 hp. h.

F. A. I. Mestime

A meeting of the General Committee of the International Federation of Aeronautics was held in Paris on Jan. 11. Mr. Lohm, United States delegate, presided, and 14 nations were represented. It was decided that the regulations of the Indianapolis Cup race should not be modified for this year.

The Gordon Bennett Cup race for spherical balloons was held for the 25th time, the start in London rather at 11:30 a. m. The American, Dr. G. G. Goss, won, flying a dirigible, in 24 hr. 40 min. The race was mostly directed by dirigible, with a few balloons and a few aeroplanes. The first prize was \$10,000. The second prize was \$5,000. The third prize was \$2,500. The fourth prize was \$1,250. The fifth prize was \$625. The sixth prize was \$312.50. The seventh prize was \$156.25. The eighth prize was \$78.12. The ninth prize was \$39.06. The tenth prize was \$19.53. The eleventh prize was \$9.77. The twelfth prize was \$4.88. The thirteenth prize was \$2.44. The fourteenth prize was \$1.22. The fifteenth prize was \$0.61. The sixteenth prize was \$0.31. The seventeenth prize was \$0.15. The eighteenth prize was \$0.07. The nineteenth prize was \$0.04. The twentieth prize was \$0.02.

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The Pratt and Whitney Wasp Engine

A New Radial Air-Cooled Engine of Very Low Weight Per Horsepower

IN A RECENT issue of *Aviation* announcement was made of the development of a nine cylinder radial aircraft engine by the Pratt & Whitney Aircraft Co., of Hartford, Conn. The first detailed description of the engine, known as the Wasp, which has just completed the Navy 50 hr. test, is now available.

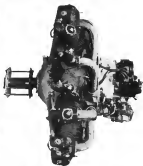
The engine develops about the same horsepower as the Liberty on a reduction of about 200 lb. in dry weight. This is equivalent to a dry weight per horsepower of 1.68 lb., which is quite the lowest weight thus far obtained with a radial type. The compression of the cooling system and the reduction in dry weight will result in a powerplant having the same output as the Liberty, but weighing approximately a quarter of a ton less.

Reliability First Consideration

Reliability and durability were considered as the first and foremost consideration in the Wasp design. To this end, difficulties arising in the design of radials were carefully analyzed, and the new design was carried out with provisions for eliminating these difficulties. For example, the crank case was split on the center line, the two halves being held together by the cylinder flanges and large through-bolts in such a way as to make the front and rear sections interchangeable. This makes the crankcase construction very simple and rugged.

It is obvious, from the design of all the power transmitting parts, that great care and long experience is embodied throughout. Reinforced, hot-treated cast aluminum pistons, with large flaring wrist pins are used. The master rod is a very good piece of wrought, hot ground, design. All the rods are

N.A.A. roller bearings. An unusual feature is the extension of the crank web on the side opposite the pin to form part of the counterweight.



Side view of the Pratt and Whitney Wasp engine.



Three-quarter front view of the Wasp engine, showing its radial cylinders and crankcase.

*It is noted to provide for visual inspection of the material, which would not be possible with tubular construction. The crankshaft is very short and robust. It is carried on three

Another troublesome feature in radial engine design has been the valve gear, which reversibly has been exposed and not well lubricated. In the Wasp, the rocker arms are carried in housings which are cast integral with the cylinder heads. This, together with the enclosing tubes for the push rods, strictly protect the valve gear. Extensive leaf valve guides are used which not only carry away the heat rapidly from the exhaust valves but also provide efficient guiding action to eliminate valve stem—drop-out—a common trouble.

Location of the Accessories

Another feature which adds to the dependability of the powerplant is the location of all the accessories at the rear of the engine, as shown by the three-quarter rear view photograph. Here are grouped two 8000-lb. magnetos, a Stromberg carburetor, the fuel and oil pumps, two camshaft drives, the induction drive, and the generator drive, as well as the oil strainer and relief valve. An Eclipse automatic starter is carried between and just above the two magnetos. These units would all be readily accessible from two doors, one on each side of the fastener of an airplane equipped with the Wasp engine.

Above from these major design features all the parts which transmit the power of the engine have very high factors of safety. The use of all these parts in a subassembly in view of the extremely light weight per horsepower of the engine, indicating that low weight per horsepower has been secured by simplified arrangement rather than by weakening any important parts. All the component parts are as light

(Continued on page 226)



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When Writing to Advertisers, Please Mention AVIATION

Two New Contract Air Mail Routes

By contract of the Postmaster General, advertisements were issued on Jan. 22 and 23, respectively, inviting proposals for the operation of the following two contract air mail routes:

CLEVELAND, O., to PITTSBURGH, PENN. and return, with work in intermediate cities to be done by contract open route.
 PITTSBURGH, PENN. to NEW YORK, N.Y., with work in intermediate cities to be done by contract open route, and with a subsidiary in New York to be done by contract open route.

CHICAGO, ILL., to INDIANAPOLIS, IND., LOUISVILLE, KY., KANSAS CITY, MO., and ST. LOUIS, MO., with work in intermediate cities to be done by contract open route.

Letters to be no less than six months' notice per week.
 Leave Chicago 7:30 a.m. Leave Indianapolis 8:00 a.m.
 Leave Louisville 8:30 a.m. Leave St. Louis 9:00 a.m.
 Leave Kansas City 9:30 a.m. Leave Chicago 10:00 a.m.

The routes are open to bidders regardless of residence, and bids on the Chicago-Pittsburgh route will be received at the Post Office Department in Washington until noon on March 24, while the bids for the Chicago-Alaska route will close at noon, March 22.

The schedule to be adopted in either case will require an average flying speed of approximately 60 m.p.h. The Department retains the right, in some instances, due to weather conditions, etc., it may be impracticable to continue such a schedule, but, under favorable conditions, even better time may be possible. Proper allowance will be made in all such cases. Contracts are limited by law to not exceeding a five-year term.

Proposals should show the rate of compensation stated in percentage of revenue, which mail cost not exceed 50c, the average allowed by law.

The postage rate over contract air mail routes is 50 cents on money in duration thereof whose the length of the route

is not over 1,200 miles, 35 cents up to and including 1,500 miles, 25 cents above the length is over 1,500 miles, with 5 cents additional for each mile involved over the intermediate Government-specified route.

To the case of the Chicago-Alaska route the contractor will be required to receive and dispatch mails at the Government Air Mail field in Chicago, and will be provided to use such portion of the Government lighted airway as may be necessary.

The Pratt and Whitney Wasp Engine

Continued from page 235

as possible, consistent with simplicity, and standards and dimensions are extremely used.

To obtain a high power output, an improved cylinder construction has been used with very large valves, together with an unusual amount of cooling surface, both on the cylinder heads and on the exhaust valve guides.

This efficient cooling enables the engine to develop full power on domestic aviation gasoline, which is an important consideration. A General Electric type supercharger is built into the engine at the rear. On account of the extra crankcase construction it has been possible to save considerable weight in other vital engine sections.

The Wasp is extremely clean in external design, and mounted in a plane, nothing would be visible but the cylinders and some of the crankcase. As the accessories are all in the rear it is not necessary to cover the engine at all.

It is interesting to note that work on the design of this engine began early in August, 1923, and, within a period of six months, the first of the type has been constructed, and a second a year later and was completed at the standard May 28 last. The high power and low weight characteristics of the engine are most notable features.

The American Eagle

By WERNER GARDNER

Edna Robinson, Alaska Airlines.

High up in the morning sky, every mile west of Denver, an elegant family of American Eagles sailed in the peace and excitement of the simple life that surrounds the rugged peaks, whose heights dash fear into the hearts of mountaineers.

On a particularly day in November, Edna and De Eagle, little Robert, the youngest fledgling and Selby-First, the eldest, sat contentedly during the hours of the day in their home after a look of baby talk. Selby-First, the eldest, was trying to start a cry. "Dey," he said, "I know I am ready to look my first flight. My feelings have been strengthened long enough and I feel sure my actions are in positive control. This old looking over will work if you will just give it a chance. I want to fly down to Denver."

"Fly down to Denver?" croaked old Mrs. Eagle. "Isn't the second place you would go. Why, don't you remember my seeing you that day in Alaska? You said you would come down to Denver? You'd get out of that life, fly down over Denver and land down here and start a new life. The first thing you know one of these airplanes would be in you and your mother's here in my mother's eye to replace you."

"Ah, guess you're right," replied Selby-First. "You know you never see because you were so proud of my construction and the belief that I'd perform well in this life. You know those Denver ships are round after the family and our house and they call me Boyfriends. Why couldn't I be easy to see?"

"Well, there'll be no mistake in this family, Selby-First. I feel free to give you a thorough good over and

feel sure you can make my friend," replied Mrs. Eagle. Selby-First layed out after dinner, carrying the conversation on further, but he made up his mind he'd fly off from home.

During this conversation little Edna the Eagle family suspect that Selby-First felt below them, though the father of a helix in the air, and De Eagle, president of the American Airlines, one of whose successful mountaineers had been to make a mistake. He, and a companion, had been used long before the conversation started and was sitting down. Furthermore, little Edna the Eagle family suspect that De Eagle overheard them. But he did, so he got that word away from him from listening to the conversations of joy over the birth of the first Eagle and a single of morning program. Struggling through his parents, he discovered a rubber stamp note into the form of an Eagle's head. "Edna No. 22, 1926/10/10" mattered the airplane manufacturer. "I'll work up on De Eagle family and sleep young 'Selby-First' right under the hood." So, on the day he heard of the day, when the years were and the mystery 'year', he took to the road and early morning Selby-First in to prevent the rubber stamp mark against his check up. And so, on the day he heard of the day, when the years were and the mystery 'year', he took to the road and early morning Selby-First in to prevent the rubber stamp mark against his check up. And so, on the day he heard of the day, when the years were and the mystery 'year', he took to the road and early morning Selby-First in to prevent the rubber stamp mark against his check up.

Wrote every day, and finally the day came—December 8, 1925—for the really first flight to Denver. Selby-First, in the absence of his mother and father, made a beautiful take off, gave her a little gas and sailed down to a new world to Denver. There, most few said, he used the wonderful invention of the American Airlines and the big bird over the Alaska Airlines history. Then, because of his business, he attempted a short landing at Broadway, one of Denver's busiest streets, on which the Alaska Airlines plane form.

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Thirty feet from the ground, Safety-First's engine cut out and he went into a nose dive and hit the side of a passing Silver with a "smack." Shaken and wobbling, he tumbled to the earth and took into a silent trip. Not good started Bent Barwood, and watch dog of Alexander Industries, was crossed from an afternoon mistle on the front lawn. Being tender with how a crash my should look, he ventured to the earth, where Safety-First was crouching as he looked away from Eagle House. "That doggie, old innocent," and Nod, as he called Safety-First's doghouse with his friendly tone. "The boss told me about you but I didn't think you would come. One up and come call me after, as you are going to teach me to fly." "That it, but dog," smiled Safety-First, "show me the repair shop. Don't you see my wings are torn and my landing gear is down so where my people ought to be?" He got the boy and left him. He knew, incidentally, you can never fly! your roller's got hole in it!"

Nod trotted off, beamed beneath the chief's window and the chief, standing the Nod, took him to the house of the south. Lifting Safety-First's head, he found the Eaglehouse bookstand and in his glo, lost those words of management in Safety-First's care. "There my, Partner, I'll have my company doctor cut out your job for that hurt to your landing gear and give you the job of a lifetime."

And so we find Safety-First, the live American Eagle, swooping for the Alexander Eaglehouse, the only commercial airplane built in the Rocky Mountain range.

P.S.—At this writing, the big dog, Nod, is making negotiations in Safety-First's office, in the rear of the Aircraft factory, to bring his family to Denver, where his father and mother will be accompanied by our production class of "One-A-Day." Think, as American Eagle will convert every Eagle-robot.

Leaving Amphibian Sets World Record
Four new records were captured by the United States when Lt. George C. McDonald, flying a *Leaving Amphibian* at Langley Field, on Jan. 15, broke the following airplane records:

Speed over 100 km. with 100 hp. per foot (1130 h.p.)	Speed over 100 km. with 100 hp. per foot (1130 h.p.)
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Speed over 100 km. with 100 hp. per foot (1130 h.p.)	Speed over 100 km. with 100 hp. per foot (1130 h.p.)

Lieutenant McDonald's speed was 170 km. per hour or 111.36 m.p.h. The previous record, held by Italy, and won by Giulio Gullik, was 144.715 m.p.h. What is particularly interesting about the four records set up by Lieutenant McDonald is that these new records were broken by a machine that is not only a seaplane, but a land machine as well—a amphibian. Of course, in order to qualify as a seaplane, it was necessary for Lieutenant McDonald to take off and land on the water when making his record-breaking flight. His first took off on a beach of 1140 ft. 48 in. more than the record set by the Italian, taking off from the land field at Langley, he raised the wheels and landed on the Black River when the official start was made. The Amphibian, despite its heavy load, got off with a run of 17 in. and, with the engine landing between 1400 and 1500 sq. ft., a speed of over 111 m.p.h. was made.

With the development of amphibians, the question now arises as to whether the International Aeronautic Federation should set up a separate class of world record for this type. If this were done, the *Leaving Amphibian* would have a fair chance of capturing most of these records.

Another Hawaiian Flight Being Planned
Plans for another non-stop flight to the Hawaiian Islands are under way and it is understood that Commander Rogers, who made the first trip, may wish to be relieved on June 25, 1956, at the Bureau of Aeronautics so that he may again command the flight.

AIRPORTS AND AIRWAYS

Arkansas Airport Development

The New Year in Arkansas opens with bright prospects for military and commercial development. Through the concerted efforts of the State officials, the Arkansas chapter of the National Aeronautic Association and the Little Rock Chamber of Commerce, there has been made available for military and commercial aviation one of the finest airports in the country.

The enlargement of the present field by an addition of 400,000 sq. ft. will provide, when completed, an L-shaped field, each leg being approximately 1000 ft. long. This makes available an airport capable of accommodating the largest types of military and commercial craft. The existence of two hangars, two blocks, unexpressed pavements and various other equipment, adds to the attractiveness of the airport. Two groups of four runways are two-lighted, are being installed to provide for night landings.

The airport is 1½ miles out of Little Rock and Main streets—the business center of Little Rock—and can be reached in five minutes by auto. The exit provision is within easy walking distance and a plan to extend it to the main entrance of the airport is now being considered. The airport is very accessible by air from the North, East and South. At 16 miles of ten feet on these drive miles is sufficient to clear all obstructions.

Approximately \$300,000 has been spent in grading, leveling, drainage and observation tower field for the airport.

period future use of the facilities. All work will be completed and the airport ready for use by Feb. 15.

The need of such an airport in this district and its future importance may be gauged by the fact that, though still incomplete, it is being regularly used by Airways possessed in traveling from Dayton, O., and points West to Dallas, Tex., and points South and West. The route runs followed through Louisville, Ky., Nashville, Tenn., Memphis, Tenn., Little Rock, Ark., and Dallas, Tex., increases the Mississippi River Valley and the borders of Arkansas and Texas, thereby eliminating the rough country to the North and West. This route, being steady the importance of a right-angle isogon, reduces the total distance by 150 miles, as compared with the course via St. Louis and Kansas City. The number of large cities served by this shortened route is also attained from a commercial viewpoint.

The 154th Army Observation Squadron, Arkansas National Guard, will have the isolated conditions on the field at all times, in addition to the depot personnel and the large amount of parts in storage at the depot. Fully equipped machine shops, gasoline, oil and longer facilities will ensure prompt and efficient service.

Known for commercial personnel are available at the Officers Club, though kindly necessary trace a number of the leading hotels offer an attractive reduced rate to visiting aviators. Nearby all the shops, theaters, civic activities and several of the leading restaurants, offer their facilities to visiting

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The entire state is unable to accommodate possibilities and determined that its development shall be in keeping with the active and progressive development of the state's other major natural possibilities. Many other towns in the state have followed this plan and are providing material supports for the use of their National Guard Squads and other visiting aircraft.

World's Youngest Flier

Thomas Picket of Anderson, Ind., has claim to being the world's youngest pilot. He is now fourteen years old, having been born on Jan. 9, 1912. Picket's father is a pilot and they have been making trips together for several years. Last year the youngster decided that he wanted to fly alone. After possessing to be a good boy at home for a period of



P. A. Photo.
Claim made in world's youngest licensed pilot

three months he was allowed to solo. Two days later, that is on Aug. 26, 1933, he flew cross country to Elletts Creek, Mo., where he successfully passed his tests and obtained F.A.I. license No. 5124. Young Picket, who is still in grade school, expects to leave the country for Europe next year to demonstrate that flying is easy to learn.

Touring By Air

One of the most interesting examples of the tripplan being used as a private vehicle for touring the country is provided by Andrew A. Bauer. Flying a Travel Air machine, Mr. and Mrs. Bauer covered a wide area of the country and have described their trip in the following paragraph:

"On our new Travel Air, equipped with a Cessna 003 engine, with 31 McCauley propeller, we took to the air from our ranch near Wilson, Neb. We landed southward making Idaho, Kansas, our first stop-over place.

"From Idaho we flew southwest over the state of Kansas, stopping over at Elletts and then on to Garden City.

and found interested crowds in every small town of eastern Colorado. We soon began to move southward as far as we could to Colorado Springs. Here we landed over the Cheyenne Mountains, south of the divide and the base of the Pikes and other peaks of interest and here considered our first snow storm in the air. We found that our Travel Air performed very well even at an altitude of over 6,000 ft. We were carrying tandem the pilot and a full tank of gasoline, at least 80 lb., making a load of about 500 lb. We even taught in the air in a 50 mph gale and found that Pilot McCauley could safely land the Travel Air regardless of the wind stress. From Colorado Springs we took off, flying southwest over Palmer Lake and into Denver.

"While in Denver the weather turned very cold and we decided it would be more comfortable flying in a warmer climate. We then left Denver and flew over the State of Kansas landing at the Travel Air Field, Wichita, Kansas. From Wichita we flew southward over the state of Oklahoma, landing in Okla. and then on to Tulsa, Texas. From here we flew to Texarkana. We thought it would be interesting to fly across the state of Texas, so started off flying southeast, and landed at Love Field, Dallas, from there continuing to Brownwood. We also stopped in San Angelo and then flew on to El Paso. Of great interest to us were the small towns of western Texas with their well located landing fields which are very beautiful to see together and prove that there is a spirit of progress in these towns. We also flew over parts of Old Mexico, which in El Paso, visited Juarez which we found very interesting.

"After getting on our feet, we left the law of the Western Coast and decided to come on through. All being agreed upon, we landed in Tucson, Arizona, and from there we flew to Yuma. We were now on the last leg of our trip and flew over some very beautiful country, fields of grain, prairie, mountains, rivers, forests, fields of cotton, oil fields and desert but, on entering the western coast region, we unanimously decided we were fast approaching the real beauty of nature as the rich valley opened out before us in our possession at last. The entire trip was very wonderful. We arrived at the California Inn at San Diego, San Diego, Calif. We landed in El Paso, Tex. and then on to the Western Coast and received a very hearty welcome from the El Paso field boys.

Fast Flight From Florida to New York

Last, George H. Peck, piloting the three-engine Fordor, made a fast flight from Jacksonville, Fla. to New York, in 24 hr. 50 min. Stops were made at Savannah, Ga.; Philadelphia, Pa.; Washington, D. C.; and Bradley Field, N. Y. In spite of a long wait for weather at New York, the elapsed time for the 1,000 miles was a little less than 12 hr. This almost equals the record which Cliff Whitten, in a Luscombe Air Yacht, established in 1922, when he flew from Palm Beach to New York in 13 hr. 15 min. The record was carried last year by a woman on the field. These were Robert E. Ross, former of Jacksonville, J. McPhail of the Peckley Co., J. M. Price and E. E. Young, Jr., the latter two being Jacksonville business men.

To Prison By Plane

From New York Southern Railway comes the news that an air service will be established to Solovoy Island, in the Virgin Islands, for transporting prisoners ruled to Solovoy Manzanito. This, it is believed, will be the first time in the history of aviation that prisoners have been transported by airplane.

Airbuses are now being erected at Kani, on the mainland, and on Solovoy Island. On account of us, the island is isolated for the greater part of the year. Enigmas will be used on the road. Up to the present, communication with the island has been carried on by ships over the ocean, or by boat, with the sea there in the spring.



Blazing trails through space

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be used on the roads. Tip to the ground, communication with the island has been opened on by signals even the towers are, or by boat, when the ice there is the spring.

Fast Flight in OX-5 Standard

Daniel Grosse of Andes, N. Y. purchased a Standard from the Eastern Aircraft Co. of St. Louis, and, in company with Clifford Goodell, who recently sailed with the North American Co., after only 56 hr. instruction, flew the day back to Chicago, making the approximately 300 mi. in 3 hr. They delivered the C & A. truck and shipped from town to town.

Moline, Ill.

By W. E. Mosler

A new "Mass" airplane has been purchased by the Campbell Airplane company of Moline, and two more machines of the same type have been ordered by the same company, one of them to be assigned to an Iowa dairy farmer who has been using an unusual model. Despite cold and unfavorable weather Pilot E. K. Campbell and his baggage have been in the air frequently, making one trip to and from Chicago, the return being made during a heavy snow storm.

United States Air Forces

War Fliers Form Legion

A league of aviators, an international organization for which all aviators are eligible, was launched on Jan. 26 in Paris by the old aviators, known as the "Vieux Tigres."

The purpose of the association is the general development of aviation, with the older men advising the younger ones.



A group of all the officers, student officers, cadets and military personnel of the Air Service Advanced Flying School, Kelly Field, Texas, wearing a long Air Service uniform. In the background are a few of the planes forming the training equipment of the school.

to join them. The occasion for the launching was the announcement at the Lafayette Bonville Trophy, donated by one of America's air pioneers, Clifford Bonville, to be competed for annually in France for the next five years.

There are also five preliminary trophies, each for France, England, the United States, Italy, and Belgium.

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